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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/830,588	05/09/2001	Takashi Matsumoto	HASH0011UPCTUS	4260

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NEIFELD IP LAW, PC
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ARLINGTON, VA 22202

EXAMINER

CASIANO, ANGEL L

ART UNIT PAPER NUMBER

2182

DATE MAILED: 10/06/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application N .

09/830,588

Applicant(s)

MATSUMOTO, TAKASHI

Examiner

Angel L. Casiano

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 May 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 May 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3. 6) ☐ Other: _____

DETAILED ACTION

1. The present Office action is in response to application filed 09 May 2001.
2. The numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not).
 - Misnumbered claims 3-10 have been renumbered 2-9.
3. Claims 1-9 are pending. Claims 1-9 have been amended. Claims 7-9 were added.

Priority

4. Acknowledgement is made of Priority claim for the present application as filed under 35 U.S.C. 371. Priority date for 09 September 1999 is claimed.

Information Disclosure Statement

5. The information disclosure statement (IDS) submitted on 06 September 2001 was filed after the mailing date of the application on 09 May 2001. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Drawings

6. Figures 6-8 (see "Conventional systems") should be designated by a legend such as -- Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

7. The drawings are objected to because:

- Fig. 2, "26" should be labeled as to its function.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

8. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

9. Substitute specification has been received and entered accordingly.

Claim Rejections - 35 USC § 112

10. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

11. Claims 1-6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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12. Regarding claim 1, this cites "indicating that there is an unprocessed request". However, it is unclear in the present claim, in the cited step of "allocating", which component indicates the unprocessed request, as disclosed.

13. Claims 2-5 depend on claim 1 and therefore carry the previous rejection under 35 U.S.C. 112, second paragraph.

14. Claim 3 recites the limitation "wherein the physical address" in reference to claim 1. However, claim 1 does not disclose a "physical address". There is insufficient antecedent basis for this limitation in the claim.

15. Claim 5 recites the limitations "physical address" and "embedded memory" in reference to claim 1. There is insufficient antecedent basis for these limitations in the claim.

16. Regarding claim 6, the recording medium cites "indicating that there is an unprocessed request". However, it is unclear in the present claim, regarding the step of "allocating", which component indicates the unprocessed request, as disclosed.

Claim Rejections - 35 USC § 103

17. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary

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skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

18. Claims 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Priem et al. [US 6,081,854].

Regarding claim 7, Priem et al. cites an address decoding (see col. 5, line 1) method (see col. 2, line 35) for selecting an object device (see "Abstract") in a computer system. The method disclosed by the cited art teaches the step of selecting an object device (see col. 6, line 57) using only a portion of the physical address space for decoding (see col. 5, lines 5-10). Priem et al. does not expressly teach the step of "using another part of the physical address as an identifier for distinguishing multiple physical addresses selecting the object device". In addition, the cited art does not explicitly disclose the step of "using the identifier in order to identify an application process having accessed the object device". However, Priem et al. does teach identifying an application accessing an object device (inherent, see "Title"; col. 5, lines 43-49). Accordingly, it would have been obvious to one of ordinary skill in the art at the time of the invention that the cited method, as disclosed by the reference would have been capable of identifying a case where multiple physical addresses select the object device. It should be noted that by identifying the applications having access to the object device, the cited prior art teaches a system for fast data transfers to I/O devices.

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Regarding claim 8, this is oriented to the computer system having an address decoder selecting an object device, as disclosed in the method of claim 7. Claim 7 is rejected in the present Office action as being unpatentable over Priem et al. Accordingly, Priem et al. also teaches the computer system having the decoder, which performs the decoding steps of claim 7. Claim 8 is rejected under the same rationale.

As for claim 9, Priem et al. executes requests corresponding to the application process by the object device (inherent, see col. 5, lines 4-10, 43-49; col. 6, lines 56-64) based on contents of access (see “initiated”; col. 5, lines 48-49).

Allowable Subject Matter

19. Claims 1-6 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action.

20. The following is a statement of reasons for the indication of allowable subject matter: The prior art does not teach or suggest, alone or in combination, a program having the steps of allocating, writing, notifying or reading, as set forth in the claims. The prior art does not expose an “allocating” step for a context identifier, by the operating system, as an indication of a “request storing area for the process”. The cited step is claimed as further “mapping a memory page” related to the context identifier as an accessing address to a register. The “allocating” step teaches an indication that there is an unprocessed request. The “writing” step, as claimed in the application discloses a “process” for writing the contents of operation requests to the I/O (device or interface) into the “request storing area”. The claimed program notifies, by the “process” the

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existence of an “unprocessed request” by the use of the accessing address for the “pending register”. In addition, the claimed program implements the step of “reading” by the I/O element (device or interface, as claimed), the operation requests of the process, which are stored at the location previously identified in the “pending register”.

Conclusion

21. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- Boucher et al. [US 6,434,620 B1] teaches a network interface device.
- Mc Carthy et al. [US 6,321,310 B1] teaches memory architecture for a computer system.
- Priem et al. [US 6,065,071] discloses method and apparatus for trapping unimplemented operations in I/O devices.
- Priem et al. [US 5,887,190] teaches an I/O control unit.
- Loo et al. [US 5,845,325] discloses virtual address write back cache with address reassignment and cache block flush.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Angel L. Casiano whose telephone number is 703-305-8301. The examiner can normally be reached on 8:00-5:30 pm.

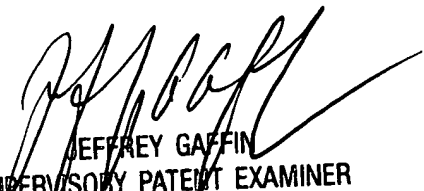
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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey Gaffin can be reached on 703-308-3301. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

alc

September 23, 2003.


JEFFREY GAFFIN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100